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CLAIMS

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[Claim(s)]

[Claim 1]Since a label is cast-wrapped at one on the surface of a work by which injection molding was carried out with a synthetic resin, It is the method of inserting a label twisted around an insertion zipper to a cavity of a metallic mold, First, twist a label around a false core, hold by suction, and this false core is inserted into a false metallic mold, A label insertion method canceling suction of a false core, and operating suction of a false metallic mold, and holding a label to a false metallic mold, next an insertion zipper's receiving a label in a false metallic mold, and inserting to a cavity of a metallic mold.

[Claim 2]A label insertion method pushing in a false core further in a false metallic mold after inserting a false core in a false metallic mold and canceling suction in a label insertion method according to claim 1 before operating suction of a false metallic mold, and correcting a position gap of a label.

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[Translation done.]

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]Since the label in which a character, a figure, etc. were indicated on the surface of the work by which injection molding was carried out with the synthetic resin is cast-wrapped in one, this invention relates to the method of inserting a label to the cavity of a metallic mold.

[0002]

[Description of the Prior Art]Although foodstuffs, such as ice cream and a pudding, are put into the cup shape container by which injection molding was carried out with the synthetic resin and it is sold in many cases, the surface of this container is covered with the label which indicated characters and figures, such as a trade name. the former -- this label -- the surface of a container -- adhesives -- pasting \*\*\*\* -- although there were many things, in order for sticking work to take time and effort, these days at the time of injection molding of a container, one cast-wraps a label on the surface of a container. That is, it holds in the state where inserted the label in the cavity of a metallic mold and it stuck to the inner surface of the cavity, and when the synthetic resin fused to this cavity is poured in and a container is fabricated, one cast-wraps a label on the surface of a container. If a label is cast-wrapped in one on the surface of a container, a label separates, or does not become dirty and a beautiful state can be held for a long period of time.

[0003]Drawing 2 is a routing description figure of the conventional label insertion, and explains a conventional example based on drawing 2. At a process (1), the one label L is taken out from label stock LS, and the label L is supplied to the insertion zipper 3 at a process (2). The cylindrical attaching part 31 is formed in the insertion zipper 3. And the minute suction hole is formed in the surface of the attaching part 31, and the insertion zipper 3 is connected to the pressure reducing device with the hose of graphic display abbreviation.

[0004]The label L is twisted around the attaching part 31 of the insertion zipper 3 in a process (3). And if a pressure reducing device is operated, the label L will be held at the insertion zipper 3. Next, in a process (4), it conveys between the metallic molds 2 to which the insertion zipper 3 was attached by the conveyer style of graphic display abbreviation at the die plate 1 of the injection molding machine. And in a process (5), if insert the attaching part 31 of the insertion zipper 3 into the cavity 21 of the metallic mold 2, and suction of the attaching part 31 is canceled and suction of the cavity 21 is started, the label L will be stuck to the inner surface of the cavity 21, and will complete an insertion. After an appropriate time, the metallic mold 2 is closed, and when the synthetic resin fused in the cavity 21 is poured in and the container which is a work is fabricated, one cast-wraps a label on the surface of a work.

[0005]

[Problem(s) to be Solved by the Invention]By the way, when carrying out injection molding of the work with a synthetic resin, in order to improve productivity, it is necessary to lessen time of one cycle as much as possible. However, in the process (3) of the aforementioned label insertion method, in order to twist the label L around the attaching part 31 of the insertion zipper 3, working hours are long, and the insertion zipper 3 needs to be standing it still and is in a waiting state in the meantime. For this reason, the cycle time of the aforementioned process (1) - a process (5) becomes long, and there is a problem that productivity falls.

[0006]Since this position gap cannot be corrected in a next process in a process (3) if a position gap arises in the joint of a label when twisting the label L around the attaching part 31 of the insertion zipper 3, After the position gap has arisen in the joint, one will cast-wrap a label on the surface of a work, but since these goods are very unsightly on appearance, they will turn into inferior goods.

[0007]Then, one cycle of this invention of an injection molding machine is short, improvement in productivity is possible for it, and an object of this invention is to provide further the label insertion method which can correct a position gap to the joint of a label.

[0008]

[Means for Solving the Problem]In order to attain this purpose, an invention of claim 1, Since a label is cast-wrapped at one on the surface of a work by which injection molding was carried out with a synthetic resin, It is the method of inserting a label twisted around an insertion zipper to a cavity of a metallic mold, First, twist a label around a false core, hold by suction, and this false core is inserted into a false metallic mold, Suction of a false core is canceled, and suction of a false metallic mold is operated, and a label is held to a false metallic mold, next an insertion zipper receives a label in a false metallic mold, and it is made to insert to a cavity of a metallic mold.

[0009]In a label insertion method according to claim 1, an invention of claim 2 pushes in a false core further in a false metallic mold, after inserting a false core in a false metallic mold and

canceling suction before operating suction of a false metallic mold, and it corrects a position gap of a label.

[0010]

[Embodiment of the Invention]Below, based on a drawing, an embodiment of the invention is described concretely. Drawing 1 is a routing description figure of a label insertion of this invention. In drawing 1, the one label L is taken out from label stock LS at a process (a), 90 degrees of labels L are rotated at a process (b), and the false core 4 is supplied. The false core 4 is having the same structure as the above-mentioned insertion zipper 3, and the cylindrical attaching part 41 is formed. And the minute suction hole is formed in the surface of the attaching part 41, and the false zipper 4 is connected to the pressure reducing device with the hose of graphic display abbreviation.

[0011]The label L is twisted around the attaching part 41 of the false core 4 in a process (c). And if a pressure reducing device is operated, the label L will be held at the false core 4. The false core 4 holding the label L goes up at a process (d), and rotates 90 degrees at a process (e). And the false core 4 retreats at a process (f), and the attaching part 41 which rotated 90 degrees at the process (g) and held the label L meets the false metallic mold 5. These process planning has flexibility and, in short, the attaching part 41 of the false core 4 holding the label L should just meet the false metallic mold 5.

[0012]The false cavity 51 of the same size as KYABBITI 21 of the above-mentioned metallic mold 2 is formed in the false metallic mold 5. The minute suction hole is formed in the false cavity 51, and the false metallic mold 5 is connected to the pressure reducing device with the hose of graphic display abbreviation. And the false core 4 moves forward at a process (h), and the attaching part 41 is inserted in the false cavity 51. If suction of the attaching part 41 will be canceled if the attaching part 41 of the false core 4 is inserted in the false cavity 51, and suction of the false cavity 51 is started, the label L will be stuck to the inner surface of the false cavity 51, and will be held. And the false core 4 which delivered the label L to the false metallic mold 5 returns to an original position.

[0013]Here, the attaching part 41 of the false core 4 is inserted in the false cavity 51, and if a time lag is established when starting suction of the false cavity 51, the time of canceling suction of the attaching part 41, and, the label L will be in the free state attracted by neither in the meantime. And if the false core 4 is further stuffed into the false cavity 51 in this state, the label L will be compressed in the plate-like part of the false core 4, and the depth part of the false cavity 51. Therefore, in a process (c), since the label L of a free state is compressed in the plate-like part of the false core 4, and the depth part of the false cavity 51 even if the joint of the label L has a position gap when twisting the label L around the attaching part 41 of the false core 4, this position gap is corrected. And a start of suction of the false cavity 51 will hold the label L at the false cavity 51, after the position gap has been corrected by the joint.

[0014]Next, the above-mentioned insertion zipper 3 meets the false metallic mold 5, moves forward by process (i), and the attaching part 31 is inserted in the false cavity 51. And if suction of the false cavity 51 is canceled and suction of the attaching part 31 of the above-mentioned insertion zipper 3 is started, the label L will be delivered to the insertion zipper 3 in the state where it was twisted around the attaching part 31. That is, since the label L is not twisted around the attaching part 31 of the insertion zipper 3, the insertion zipper 3 does not need to stand it still for label volume attachment which requires time, and the cycle rise of the insertion zipper 3 can be aimed at.

[0015]If the label L is received and passed to the insertion zipper 3, in a process (j), it will convey between the metallic molds 2 to which the insertion zipper 3 was attached by the conveyor style of graphic display abbreviation at the die plate 1 of the injection molding machine. And in a process (k), if insert the attaching part 31 of the insertion zipper 3 into the cavity 21 of the metallic mold 2, and suction of the attaching part 31 is canceled and suction of the cavity 21 is started, the label L will be stuck to the inner surface of the cavity 21, and will complete an insertion. After an appropriate time, the metallic mold 2 is closed, and when the synthetic resin fused in the cavity 21 is poured in and the container which is a work is fabricated, one cast-wraps a label on the surface of a work. It can cast-wrap in one on the surface of a work, without a position gap arising in the joint of a label at this time.

[0016]

[Effect of the Invention]Since this invention twists a label around a false core, and holds this label to a false metallic mold first, next an insertion zipper receives the label in a false metallic mold and inserts it to the cavity of a metallic mold as explained above, while the insertion zipper has inserted the label to the cavity of a metallic mold -- the false core of the following label -- it being able to work by twisting, being got blocked and with the label insertion of an insertion zipper. Since a label twists, it can be parallel and work can be done, the standby time for label volume attachment of an insertion zipper becomes unnecessary, and, as a result, it becomes the cycle rise of an injection molding machine, and can be considered as the label insertion method which productivity can improve. A position gap of the joint of a label can be corrected and exterior inferior goods can be abolished.

[Translation done.]

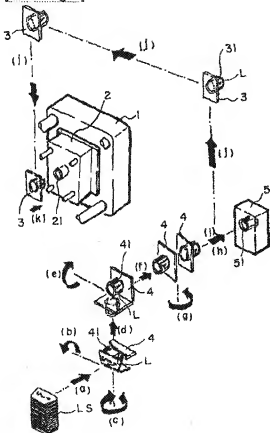
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## DRAWINGS

[Drawing 1]



[Drawing 2]

